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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/514,141	02/28/2000	Man-Chun Tse	13313	9149
32292	7590	12/29/2004	EXAMINER	
OGILVY RENAULT (PWC) 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A 2Y3 CANADA			LAO, LUN S	
			ART UNIT	PAPER NUMBER
			2643	
DATE MAILED: 12/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/514,141	TSE ET AL.	
	Examiner	Art Unit	
	Lun-See Lao	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This action is response to the amendment filed on 09-10/2004. Claims 1, 4 and 7 have been amended and claims 1-11 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Norris (US PAT. 5,966,452).

Consider claim 1, Norris teaches a method for suppressing noise having a primary tone from a noise source within a duct housing comprising:

generating (see fig.5, 60 which is electrically conductive plasma (see col.2 lines 51-65) to generate a the acoustic waves at the source of origin (phase inverted from the noise signal)) an exciting sound wave having a primary frequency (40 (phase inverted from the noise signal)) generally with an audible range (acoustic noise) and different

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from a frequency of the primary tone of the noise (34)(such as fig.1, 26 and col.4 lines 1-48).

modulating (see fig.5, 35) the primary tone of the noise using the generated exciting sound wave to excite within the duct housing (20) a fluid medium in which a sound wave of the noise propagates so that sound energy of the noise is re-distributed from the frequency of the primary tone to a broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs. 1 ,5 and col.4 line 33-col.5 line 25).

Consider claims 2-3, Norris teaches the fluid medium is air (see fig.1, and col.3 line 45-col.4 line 20); and the exciting sound wave is generated by a force of a fluid flow acting on a mechanical device (see figs.6-8, and col.5 lines 25-37).

Consider claim 4, Norris teaches a noise attenuation system for suppressing noise having a primary tone from a noise source comprising:

an elongated housing (see fig.1, 33) surrounding the noise source, the housing having a first (12) and second (22) openings on opposite ends, wherein the a sound wave from the noise source propagates in air outwardly towards the first (12) and second (22) openings (see col.3 line 45-col.4 line 20); and

an exciting sound wave generator (see fig.5, 60 which is electrically conductive plasma (see col.2 lines 51-65) and see fig.6, 35) associated with the housing, the generator generating an exciting sound wave having a primary frequency generally within an audible range (acoustic noise) and different from a frequency of the primary tone of the noise (40, phase inverted from the noise signal) to excite the air within the housing and modulate the primary tone of the noise to excite the air with the housing

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and modulate the primary tone of the noise so that sound energy of the noise is re-distributed from the frequency of the primary tone to a broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs. 1 and 5 and col.4 line 34-col.5 line 25).

Consider claims 5-6, Norris teaches the exciting sound wave generator (see fig.1, 30)) is positioned on an inner wall of the housing (see col.3 line 45-col.4 line 20); and the exciting sound wave generator comprises a mechanical device (see figs.6-8) excited by a force of air flow to generate the exciting sound wave (see col.5 lines 27-37).

Consider claim 7 Norris teaches a noise attenuation system for suppressing noise having a primary tone from a jet engine comprising:

a nacelle (see fig.1, 33) surrounding the jet engine (10), the nacelle (33) having an inlet (12) and an outlet (22) for receiving and exhausting air flow respectively, wherein a sound wave of the noise produced from the jet engine (10) propagates outwardly towards the inlet (12) and outlet (22) (see col.3 line 45-col.4 line 33); and

an exciting sound wave generator (see fig.5, 60 which is electrically conductive plasma (see col.2 lines 51-65) and see fig.1, 30) associated with the nacelle (33), generating an exciting sound wave having a primary frequency generally within audio range (acoustic noise) and different from a frequency (see fig.5, 40 and 52) of the primary tone of the noise to excite the air flow in the nacelle (see fig.1,33) and modulate the primary tone of the noise so that sound energy of the noise is re-distributed from the frequency of the primary tone to a broad range of side bands and the amplitude of the primary tone of the noise is reduced (see figs.1 and 5 and col.4 line 33-col.5 line 25).

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Consider claims 8-9, Norris teaches the exciting sound wave generator (see fig.1, 30) is positioned on an inner wall of the nacelle (3) at the inlet (see col.3 line 45-col.4 line 20); and the exciting sound wave generator (see figs. 6-8) comprises a mechanical device (such as, 64,65,66) excited by a force of air flow to generate the exciting sound wave (see col.5 lines 26-37).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris (US PAT. 5,966,452) in view of Gliebe (US PAT.5,478,199) .

Consider claims 10-11 Norris does not clearly teach the mechanical device comprises a fence member entering the inlet of the nacelle; and the mechanical device comprises an aperture defined in the inner wall, an air flow jetting from the aperture into the nacelle.

However, Gliebe teaches the mechanical device (see fig.1, 30 and fig.3, 30) comprises a fence member (a plurality of circumferentially spaced apart outlet guide vanes (OGVs), or stator vanes 30 extend radially between outer and inner duct walls

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24a,d) exposed to the air flow entering the inlet (24b) of the nacelle (22); and the mechanical device (see fig.1, 30 and fig.3, 30) comprises an aperture defined in the inner wall, an air flow jetting from the aperture into the nacelle (22 and see col.5 lines 15-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Gliebe into Norris to provide a passive acoustic liner tuned for attenuating at least one harmonic noise tone generated by the blades, with a fundamental blade passing frequency noise tone being actively attenuated by a plurality of anti-noise sound transmitters disposed in the fan duct.

Response to Arguments

6. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kato et al. (US PAT. 4,805,733) is cited to show other the fan and compressor noise attenuation.

9. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259. The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.


Lao,Lun-See
Patent Examiner

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US Patent and Trademark Office
Crystal Park 2
(703305-2259)


DUC NGUYEN
PRIMARY EXAMINER